

## **IN THE CLAIMS**

Claim 1 has been cancelled.

1. (Cancelled)

Claim 2 has been amended as follows:

2. (Currently Amended) A monochromator as claimed in claim [[1]] 8 wherein said positioning device moves said crystal to alter an angle between at least a portion of said X-rays and said crystal.

Claim 3 has been amended as follows:

3. (Currently Amended) A monochromator as claimed in claim [[1]] 8 wherein said positioning device moves said crystal into and out of a path of said X-rays.

Claim 4 has been cancelled.

4. (Cancelled)

Claim 5 has been amended as follows:

5. (Currently amended) A monochromator as claimed in claim [[4]] 8 wherein said spectral range comprises a restricted range energy spectrum with a maximum value, and wherein said control device sets said maximum value and controls said positioning device dependent on the maximum value that has been set.

Claim 6 has been amended as follows:

6. (Currently amended) A monochromator as claimed in claim [[4]] 8 wherein said X-rays emitted by said X-ray radiator have an emitted energy spectrum with a first maximum value, and wherein said crystal spectrally restricts said X-rays emitted by said X-ray radiator to produce spectrally restricted energy spectrum with a second maximum value, and wherein said control device sets a factor between said

first maximum value and said second maximum value and controls said positioning device dependent on said factor that has been set.

7. (Previously Presented) A monochromator as claimed in claim 6 wherein said control device sets said factor in a range between 0.3 and 0.8.

8. (Previously Presented) A monochromator for use with an X-ray radiator that emits X-rays having a spectral composition, said X-ray radiator having an operating voltage associated therewith, said monochromator comprising:

a crystal having a property of spectrally restricting X-rays interacting therewith

to a spectral range having a spectral composition, said spectral range encompassing multiple energies and exceeding a spectral range provided by Bragg's relation from single crystal lattice;

a positioning device connected to said crystal to move said crystal relative to the X-rays emitted by said X-ray radiator to change the said spectral composition of the X-rays; and

a control device connected to said positioning device for automatically controlling said positioning device to control movement of said crystal dependent on said operating voltage.

Claim 9 has been cancelled.

9. (Cancelled)

Claim 10 has been amended as follows:

10. (Currently Amended) An X-ray device as claimed in claim ~~[[9]]~~ 16 wherein said positioning device moves said crystal to alter an angle between at least a portion of said X-rays and said crystal.

Claim 11 has been amended as follows:

11. (Currently Amended) An X-ray device as claimed in claim ~~[[9]]~~ 16 wherein said positioning device moves said crystal into and out of a path of said X-rays.

Claim 12 has been cancelled.

12. (Cancelled)

Claim 13 has been amended as follows:

13. (Currently amended) An X-ray device as claimed in claim ~~12~~ 16 wherein said spectral range comprises a restricted range energy spectrum with a maximum value, and wherein said control device sets said maximum value and controls said positioning device dependent on the maximum value that has been set.

14. (Previously Presented) An X-ray device as claimed in claim 13 wherein said X-rays emitted by said X-ray radiator have an emitted energy spectrum with a first maximum value, and wherein said crystal spectrally restricts said X-rays emitted by said X-ray radiator to produce spectrally restricted X-rays having an energy spectrum with a second maximum value, and wherein said control device allows setting of a factor between said first maximum value and said second maximum value and controls said positioning device dependent on said factor that has been set.

15. (Previously Presented) An X-ray device as claimed in claim 14 wherein said control device sets said factor in a range between 0.3 and 0.8.

16. (Previously Presented) An X-ray device comprising:

an X-ray radiator that emits X-rays having a spectral composition, said X-ray radiator having an operating voltage associated therewith; and  
a monochromator comprising a crystal having a property of spectrally restricting X-rays interacting therewith to a spectral range having a

spectral composition, said spectral range encompassing multiple energies and exceeding a spectral range provided by Bragg's relation from single crystal lattice, a positioning device connected to said crystal to move said crystal relative to the X-rays emitted by said X-ray radiator to change said spectral composition of the X-rays, and a control device connected to said positioning device for automatically controlling said positioning device to control movement of said crystal dependent on said operating voltage.